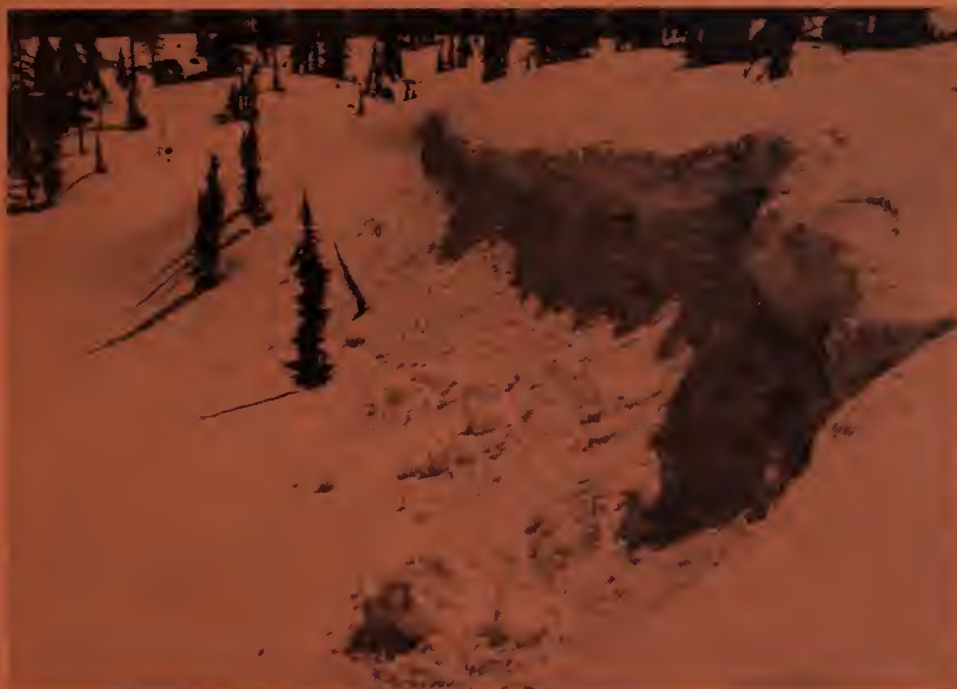


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"Western Treasure -- Deep, Wet Snow"

FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS

FOR OREGON

MAY 1, 1948

By

Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Oregon Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the Oregon State Engineer, U. S. Forest Service, National Park Service and other Federal, State and local organizations.

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FOR
OREGON

Report Prepared
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May 1, 1948

REVISED WATER SUPPLY OUTLOOK

Oregon's 1948 water supply prospects have improved somewhat since April 1 due to the continuing accumulation of snow in the mountainous regions during April. All irrigated lands of the state can expect "good" to "fair" water supplies with the best supplies provided from reservoir water. Greatly "deficient" water supplies are not expected to occur in any section of the state and due to the lateness of our winter, few, if any, late season shortages will be experienced.

Mountain Snow-cover is still accumulating but the snow-pack is ripe at the lower elevations and already releasing water. Late melting of the snow is always a decided advantage to water users dependent upon the natural flow of mountain streams and snow-melt this year is exceptionally late. Snow surveys at key stations in the Cascades indicate the snow mantle is now 125 to 150 percent greater than average.

State-wide precipitation during April was 38 to 100 percent above normal with the greatest departure in the Southern Oregon area. Abnormal precipitation and cool temperatures have been a decided handicap to agriculturalists.

Total water stored in all important Oregon reservoirs is 9 percent less than at this date last year, 18 percent less than in 1946, 11 percent less than in 1945, and 15 percent less than the 10-year average. 74 percent of the reservoirs are half full or better.

Revised forecasts indicate that streamflow in the Klamath Basin will be increased about 3 percent over the April 1 forecast in the upper basin and about 40-60 percent in the southern portion. The Rogue River drainage will produce about 5 percent more water than originally indicated, as will the John Day. White River and Hood River are only slightly increased, while the Umatilla Basin will flow about 6-11 percent more than forecast. Northeastern Oregon will produce 4 to 9 percent more than was indicated on April 1. The Owyhee Basin which was expected on April 1 to produce only 34 percent of average, will now likely reach 50 percent of average.



REVISED STREAMFLOW FORECASTS, May 1, 1948

The following revised runoff forecasts are based on mountain snow cover and on the assumption that precipitation and temperature during the remaining runoff season will be approximately normal. Appreciable deviations from normal of temperature and/or precipitation, especially during May or June, will correspondingly modify these forecasts.

BASIN AND STREAM	Apr.-Sept., inc. Streamflow in Thous. A.F.				
	Forecast	Measured Runoff ^b		10-yr. avg.	
	1948	1947	1946	1945	1937-46
<u>NORTHCENTRAL OREGON</u>					
White River Below Tygh Valley	165.0	103.1	181.0	119.3	130.8
<u>UMATILLA-WALLA WALLA</u>					
McKay Ck. above McKay Reservoir	34.0	16.1	20.9	34.5	26.9
Umatilla R. at Pendleton	210.0	96.4	194.0	188.7	153.9
<u>NORTHEASTERN OREGON</u>					
Wallowa R. E. Fk. plus Power Plant	11.8	a	13.3	10.9	10.7
Catherine Ck. near Union	85.0	a	76.0	69.0	65.2
Imnaha River at Imnaha	375.0	228.1	320.5	291.4	282.1
Powder River at Salisbury	65.0	a	76.4	54.6	57.4
<u>EASTERN OREGON</u>					
Owyhee R. above Owyhee Reservoir	225.0	176.6	467.3	646.9	437.3
Strawberry Ck. near Prairie City	7.8	7.9	9.9	8.0	7.8
<u>KLAMATH BASIN</u>					
Williamson R. below Sprague R.	340.0	223.8	415.4	332.5	382.3
Upper Klamath Lake Net Inflow	435.0	318.2	557.0	409.9	495.2
Clear Lake Res. Net Inflow	41.0	-	-	-	41.2
Gerber Reservoir, Net Inflow	14.5	-	-	-	21.4
<u>SOUTHERN OREGON</u>					
Hyatt Prairie Res. Net Inflow	6.2	a	5.5	5.8	5.8
Fourmile Lake Net Inflow	7.8	a	8.7	7.3	6.9
Little Butte Ck. N. Fk. below Fish Lake (Natural Flow)	14.8	a	15.7	13.8	13.4
Rogue R. N. Fk. above Prospect	325.0	248.8	370.4	295.4	293.4
Rogue River below So. Fork	660.0	a	735.4	656.4	636.8

NOTE: Refer to Snow Survey and Irrigation Water Supply Forecasts, dated April 1, 1948, for streams not listed above.

a = 1947 Discharge record not available.

b = Streamflow data is furnished by Oregon State Engineer and the U.S. Geological Survey. 1947 data is taken from unpublished records and is subject to revision.

STATUS OF RESERVOIR STORAGE, May 1, 1948

BASIN and STREAM	RESERVOIR	USABLE CAPACITY (Thous.A.F.)	THOUS.A.F. IN STORAGE ABOUT MAY 1				
			1948	1947	1946	1945	10-yr.avg. 1937-46
<u>UPPER COLUMBIA DRAINAGE</u>							
<u>LOWER SNAKE IN OREGON</u>							
<u>Owyhee</u>	Antelope	36.5	N.R.	22.0	25.8	34.0	29.0 ^d
	Owyhee	715.0	480.7	626.9	711.4	715.0	697.8
<u>Malheur</u>	Warm Springs	191.0	63.6	144.8	192.9	120.3	162.1
	Agency Valley	60.0	53.0	58.7	55.2	60.2	57.1
<u>Burnt</u>	Unity	25.2	19.4	24.6	22.5	19.8	22.2 ^e
<u>Powder</u>	Thief Valley	17.4	18.1	17.6	18.5	17.4	17.6 ^f
<u>Grande Ronde</u>	Wallowa Lake	40.9	19.3	25.9	17.9	13.7	25.2
<u>LOWER COLUMBIA DRAINAGE</u>							
<u>Umatilla</u>	McKay	74.0	71.9	73.1	71.3	71.3	65.2
	Cold Springs	50.0	49.7	50.0	48.3	47.0	48.0
<u>Deschutes</u>	Ochoco	46.0	41.2	35.3	46.9	21.5	31.2
	Crescent Lake	80.0	49.9	53.8	34.8	36.0	37.2
	Crane Prairie	50.0	31.8	43.2	41.8	35.1	38.9
	Wickiup	180.0	141.8	95.6	85.2	64.2	46.4 ^g
<u>Willamette</u>	Cottage Grove	30.1 ^b	29.6	29.9	24.5	25.3	27.1 ^g
	Fern Ridge	94.2 ^b	93.3	87.8	74.7	82.6	67.6 ^h
<u>WEST COAST DRAINAGE</u>							
<u>Rogue</u>	Fish Lake	7.7	4.0	5.0	4.9	4.6	5.5
	Fourmile Lake ^a	16.0	2.4	6.6	9.0	9.3	9.2
	Emigrant Gap	8.2	8.2	8.1	8.2	8.2	8.1
	Hyatt Prairie ^a	16.0	5.8	4.8	7.7	6.3	9.9
<u>Klamath</u>	Upper Klamath L.	584.0 ^c	482.9	431.7	445.4	381.8	497.5
	Gerber	94.0	40.9	42.6	66.8	70.3	67.7
	Clear Lake	440.2	176.6	220.5	297.7	293.3	280.1
<u>Goose Lake</u>	Cottonwood	4.1		4.0	4.0	3.7	-
	Drew	62.5		39.7	57.5	60.0	58.6

a= By ditch to Rogue River Drainage from
Klamath Drainage

b= Total storage available for irrigation

c= Based on gage zero elevation of 4135.0

d= Excl. of 1943, 1944

e= 1938-46

f= 1941-46

g= 1943-46

h= 1942-46

NR= No Report

VALLEY PRECIPITATION^a

DIVISION	CURRENT YEAR		LAST YEAR	
	Oct. 1, 1947 - May 1, 1948		Oct. 1, 1946 - May 1, 1947	
	P	D	P	D
Southeastern	6.1	-0.5	5.80	-1.02
Southcentral	11.6	-0.1	9.58	-2.43
Northcentral	11.2	+2.5	7.76	-1.18
Columbia River	12.7	+3.1	7.81	-1.80
Wallowa Mountains	12.4	+0.9	9.45	-1.23
Blue Mountains	14.3	+1.9	13.11	-0.06
Southern	23.7	+3.9	16.74	-3.11
Willamette Valley	54.4	+10.2	45.31	+1.13

P = Precipitation (Inches)

D = Departure from Normal (Inches)

<u>Southeastern:</u>	Southeastern Oregon range lands, Harney and Malheur Counties.
<u>Southcentral:</u>	Southcentral Oregon range lands, Lake County and Klamath County, except the Cascade Mountains.
<u>Northcentral:</u>	Northcentral Oregon wheat and range lands, Crook, Deschutes, Jefferson, Wheeler, and part of Grant Counties.
<u>Columbia River:</u>	Columbia River area, wheat and range lands, Gilliam, Morrow, Sherman, Wasco, and part of Umatilla Counties.
<u>Wallowa Mountains:</u>	Wallowa Mountain area, forest and range lands, Wallowa and part of Baker County.
<u>Blue Mountains:</u>	Blue Mountain forest and range lands, Union and parts of Baker, Grant and Umatilla Counties.
<u>Southern:</u>	Southern Oregon irrigated section, Jackson and Josephine Counties.
<u>Willamette Valley:</u>	Parts of Polk, Benton, Yamhill, Washington and Lane, all of Linn, Marion, Clackamas and Multnomah Counties.

LOCATION

SNOW COVER MEASUREMENTS

DRAINAGE BASIN and SNOW COURSE	Number or State	Sec.	Twp.	Range	Elev.	Date of Survey	Snow Depth (In.)	Water Content(In.)			Past Record Years of Record	av. Water Content (Inches)
								1948	1947	1946		

LOW ER C O L U M B I A D R A I N A G E

SANDY RIVER

Phlox Point-Mt. Hood	452	6	3S	9E	5600	4-30	166.5	72.5	48.1	88.7	9	50.9
Still Creek	451	25	3S	8 $\frac{1}{2}$ E	3700	4-30	53.3	21.5	0.0	26.9	8	9.8

HOOD RIVER

Tilly Jane-Mt. Hood	432	15	2S	9E	6000	4-21	102.1	43.4	42.6	53.8	2	48.2
Red Hill	434	21	1S	9E	4400	4-22	92.8	45.8	New Snow Course			

DESCHUTES RIVER

New Dutchman Flat	324A	21	18S	9E	6400	4-24	129.8	55.4	55.4	74.7	4	62.6
Cascade Summit	321	7	23S	6E	4880	4-25	78.9	33.0	-	35.8	2	30.0

UMPQUA RIVER

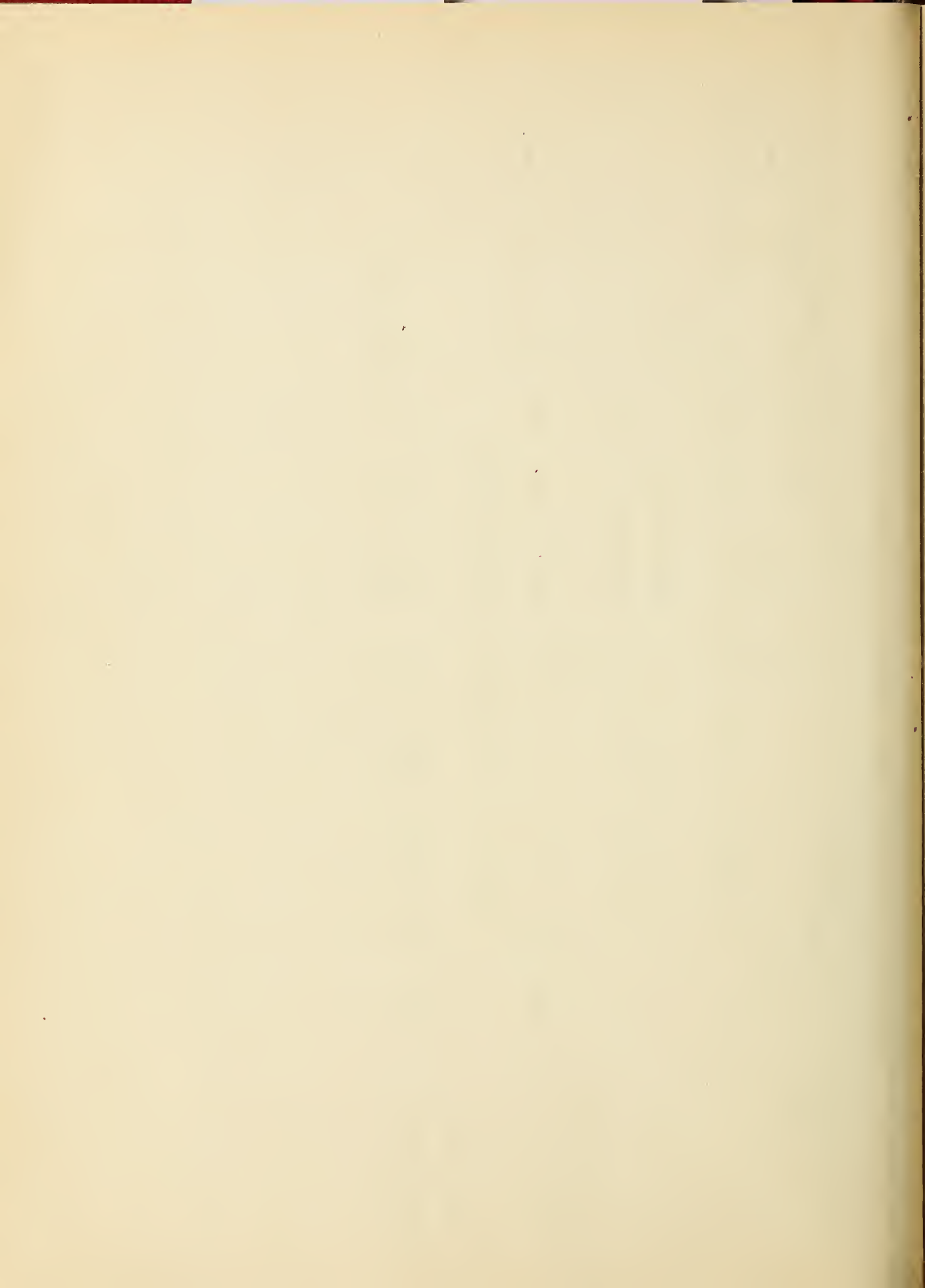
Diamond Lake	743	29	27S	6E	5315	4-28	54.0	21.0	1.8	26.7	9	15.4
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ROGUE RIVER AND KLAMATH LAKE BASINS

Annie Spring	831	19	31S	6E	6018	5-5	106.9	44.3	29.6	55.9	9	36.5
Park Headquarters	838	8	31S	6E	6450	4-30	141.9	58.4	45.7	68.8	4	57.0
Lake of the Woods	835	11	37S	5E	4960	4-28	21.3	7.0	-	-	3	6.3
Hyatt Prairie	723	15	39S	3E	4900	4-28	29.8	8.8	-	-	-	-

OREGON SNOW SURVEYS, APRIL 1948

DRAINAGE BASIN and SNOW COURSE	LOCATION		SNOW COVER MEASUREMENTS							
	Number or State	Sec. Twp. Range	Elev.	Date of Survey	Snow Depth (In.)	Water Content(In.)		Past Record Years of Record	av. Water Content (Inches)	
						Same approx. Date	1946			
				1948	1947	1946				
OWNYHEE RIVER										
South Mtn. No. 2	Idaho 35	7S 5W	6340	4-9	32.8	11.8	3.6	14.4	8	10.6
HOOD RIVER										
Brooks Meadows	431	2 2S 10E	4300	4-7	36.6	14.1	1.6	20.3	15	8.8
Greenpoint Reservoir	433	28 2N 9E	3400	4-11	34.6	13.4	New Snow Course			



The following organizations cooperate in the Oregon snow survey work:

STATE

Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon State Engineer and corps of State Watermasters
Oregon State Highway Engineers

FEDERAL

Department of Agriculture
Forest Service
Soil Conservation Service
Department of Commerce
Weather Bureau
Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Indian Service
National Park Service
War Department
Army Engineer Corps

PUBLIC UTILITIES

California-Pacific Utilities Company
Portland General Electric Company
The California Oregon Power Company

MUNICIPALITIES

City of Baker
City of Corvallis
City of LaGrande
City of The Dalles

IRRIGATION DISTRICTS

Associated Ditch Companies
Central Oregon Irrigation District
Deschutes County Municipal Improvement District
East Fork Irrigation District
Grants Pass Irrigation District
Jordan Valley Irrigation District
Lakeview Water Users Incorporated
Medford Irrigation District
Ochoco Irrigation District
Rogue River Irrigation District
Talent Irrigation District
Vale-Oregon Irrigation District
Warm Springs Irrigation District

PRIVATE ORGANIZATIONS

Amalgamated Sugar Company
South Wasco Soil Conservation District
The Crag Rats



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